

REMARKS

The examiner is thanked for indicating that claims 14-16 and 18-19 contain allowable subject matter and would be allowed if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reconsideration of the pending application is respectfully requested on the basis of the following particulars:

1. Amendments and Support for Same

By the Response, claims 1-2 and 5-6 have been cancelled, claim 3 has been amended to include the limitations of original claims 5 and 6, and claims 7-11, 23, and 25-34 have been amended to change their dependency or to correct minor typographical errors noted by the examiner. No new matter has been added. Accordingly, claims 3-4 and 7-34 are respectfully submitted for consideration. Approval and entry of the amendments are respectfully requested.

2. Objection to the Claim

With respect to claims 23 and 26, Applicant has amended the claims to correct all errors as suggested by the examiner. In view of the amendments set forth above, Applicant respectfully requests reconsideration and withdrawal of the objection to claims 23 and 26.

3. Rejection under 35 U.S.C. §102(b)

With respect to the rejection of claims 1, 2, 4, 7, 8, 10, 11, and 32-34 under 35 U.S.C. §102(b) as being anticipated by Hill (US 6,651,658), the cancellation of independent claims 1 and 2 has rendered their rejection as moot. With respect to the §102(b) rejection of dependent claims 4, 7, 8, 10, 11, and 32-34, these claims have been amended to change their dependency to claim 3. Hence, the rejection of claims 4, 7, 8, 10, 11, and 32-34 will be traversed in Applicants' response to the 35 U.S.C. §103(a) over Hill in view of JP 62-83304 below.

4. Rejections under 35 U.S.C. §103(a) over Hill and JP 62-83304

With respect to the rejection of claims 9, 25, and 28 under 35 U.S.C. §103(a) as being unpatentable over Hill, and with respect to the rejection of claims 3-5, 7-13, 17, 20-26, 28, and 32-34 over Hill in view of JP 62-83304, Applicants respectfully traverse the rejection at least for the reason that Hill and JP 62-83304, combined or separately, fail to teach, disclose, or suggest all of limitation recited in the rejected claims.

Claim 3 is directed to an oxygen enrichment apparatus including: a main body having an oxygen enriching unit for generating oxygen-enriched air; a suction unit for suctioning the oxygen-enriched air from the oxygen enriching unit; a discharge unit for discharging the oxygen-enriched air from the suction unit; and a control unit for controlling the operation of the suction unit, wherein the oxygen enriching unit has at least one oxygen enriching membrane for generating the oxygen-enriched air and a condensed water treating unit is installed at an air passage for guiding the oxygen-enriched air from the oxygen enriching unit to the discharge unit via the suction unit. Further, as recited in amended claim 3, the oxygen enrichment apparatus further includes a fan installed in the main body for supplying air around the oxygen enriching membrane, wherein the oxygen enriching membrane is of a substantially rectangular shape, a short side thereof being disposed substantially parallel to a direction of flow of the air supplied by the fan.

Applicants respectfully assert that Hill and JP 62-83304 fail to teach, disclose, or suggest at least a short side of an oxygen enriching membrane being disposed substantially parallel to a direction of air flow in combination with other claimed features. Further, Applicants respectfully note that on page 7 of the Office Action, the examiner acknowledges this deficiency in Hill and JP 62-83304.

Further, as described in, e.g., page 14, lines 15-20, and page 24, lines 2-25 of the specification, if the longer side of each of oxygen enriching membranes were disposed parallel to the flowing direction of the air, an oxygen concentration in the air flowing along a side surface of each of the oxygen enriching membranes would be reduced as the air travels forward since most of oxygen molecules pass through the oxygen enriching membranes. Accordingly, the efficiency of oxygen permeability through the oxygen enriching membranes would be reduced as the air proceeds.

However, in the presently claimed invention, the shorter side of each of oxygen enriching membranes is placed substantially parallel to the flowing direction of the air; and therefore, the reduction of the efficiency of the oxygen permeability through the oxygen enriching membranes can be prevented, as recited in amended claim 3. In an embodiment of the presently claimed invention, by employing the defined configuration, efficiency of the oxygen enrichment apparatus can be improved.

The requirements for establishing a *prima facie* case of obviousness, as detailed in MPEP § 2143 - 2143.03 (pages 2100-122 - 2100-136), are: first, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference to combine the teachings; second, there must be a reasonable expectation of success; and, finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations.

Further, according to MPEP §2141(I), Patent examiners carry the responsibility of making sure that the standard of patentability enunciated by the Supreme Court and by the Congress is applied in each and every case. The Supreme Court in *Graham v. John Deere*, 383 U.S. 1, 148 USPQ 459 (1966), stated:

Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.

Moreover, according to MPEP §2141(II), when applying 35 U.S.C. §103, the following tenets of patent law must be adhered to:

- (A) The claimed invention must be considered as a whole;
- (B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;

(C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and

(D) Reasonable expectation of success is the standard with which obviousness is determined.

In view of the amendment and arguments set forth above, Applicants respectfully requests reconsideration and withdrawal of the §103(a) rejection of independent claim 3 and its dependent claims 4-5, 7-13, 17, 20-26, 28, and 32-34 over Hill and JP 62-83304, combined or separately.

5. Rejections under 35 U.S.C. §103(a) over Hill, JP 62-83304, and Breitschwerdt

with respect to the rejection of claim 6 over Hill and JP 62-83304 in view of Breitschwerdt (US 6332,913), Applicants respectfully traverse the rejection at least for the reason that Hill, JP 62-83304, and Breitschwerdt, combined or separately, fail to teach, disclose, or suggest all of limitation recited in the rejected claims.

Breitschwerdt generally describes a membrane module for selective gas separation. Although Breitschwerdt describes a first and a second gas-mixture connection channel structures are configured to allow a gas mixture to be fed in parallel from the first gas-mixture connection channel structure to the second gas-mixture connection channel structure over an entire surface of the at least one gas-separation membrane facing the one or more gas-mixture flow chambers, Applicants respectfully assert that there is no suggestion or motivation in Breitschwerdt directed to a feature wherein the oxygen enriching membrane is of a substantially rectangular shape, a short side thereof being disposed substantially parallel to a direction of flow of the air supplied by the fan, as recited in original claim 6 or amended claim 3 or the present invention. Should the examiner maintain the rejection, Applicants would respectfully request the examiner provide a more detailed explanation of where Breitschwerdt actually describes a short side a substantially rectangular shape being disposed substantially parallel to a direction of flow of air supplied by a fan, as recited in amended claim 3.

In view of the amendments and arguments set forth above, Applicants respectfully assert that tenets A-D above have not been met in the rejection. Accordingly, the rejection of claim 6 is respectfully requested to be reconsidered and withdrawn.

6. Rejections under 35 U.S.C. §103(a) over Hill, JP 62-83304, King, Hardy, and Sun

With respect to the rejection of claims 27, 29, 30, and 31, over Hill in view of JP 62-83304, in view of various combination with King (US 6,383,507), Hardy, Jr. (US 6,866,041), and Sun (US 6,447,731), Applicants respectfully traverse the rejection at least for the reason that Hill, JP 62-83304, King, Hardy, and Sun, combined or separately, fail to teach, disclose, or suggest all of limitation recited in the rejected claims.

King generally describes a water treatment composition. Hardy, Jr. generally describes an oxygen concentrating aroma mixing breathable air delivery apparatus and method, and Sun generally describes a cleaning device having a sensor, a circuit board, a fan motor, an optical catalyst glass fiber filter mesh, an anion and ozone generator and a power supply. However, none of the cited prior art references teach, disclose, or suggest at least a features wherein the oxygen enriching membrane is of a substantially rectangular shape, a short side thereof being disposed substantially parallel to a direction of flow of the air supplied by the fan, as recited in amended independent claim 3.

In view of the amendment and arguments set forth above, Applicants respectfully requests reconsideration and withdrawal of the §103(a) rejection of independent claim 3 and its dependent claims 4-5, 7-13, 17, 20-26, 28, and 32-34 over Hill and JP 62-83304, King, Hardy, and Sun.

7. Conclusion

In view of the amendments to the claims, and in further view of the foregoing remarks, it is respectfully submitted that the application is in condition for allowance.

Accordingly, it is requested that claims 3-4 and 7-34 be allowed and the application be passed to issue.

If any issues remain that may be resolved by a telephone or facsimile communication with the Applicant's representative, the Examiner is invited to contact the undersigned at the numbers shown.

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Respectfully submitted,



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